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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,241	11/19/2003	Masato Nagawa	Fukuyama-4 (2003P282523)	6885

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EXAMINER	
CUEVAS, PEDRO J	
ART UNIT	**PAPER NUMBER**
2834	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,241	NAGAWA ET AL.	
	Examiner	Art Unit	
	Pedro J. Cuevas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-23 and 25-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-23 and 25-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-23, and 25-35 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-10, 14-20, 22-23, and 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,134,710 to Atherton in view of 4,048,947 to Sicard.

Atherton discloses the construction of a simultaneous plural-directional flow motor comprising:

a vertical shaft (20) disposed vertically and rotatably;

a rotatable horizontal shaft (36) rotatably and perpendicularly penetrating the vertical shaft;

a first and a second plate-like grooved blade member (56) provided on the horizontal shaft on the opposite sides of the vertical shaft;

a drive power mechanism (14) operable with the rotation of the vertical shaft;

a restricting mechanism for restricting the rotation of each horizontal shaft to a range of 90 degrees, and in which the restricting mechanism includes a first and a second shock absorbing contact members (60) provided on the horizontal shaft on the opposite

sides of the vertical shaft, and a first and a second contactable member (54) provided on the vertical shaft and capable of being contacted by the first and second contact members;

stoppers (52) projecting from the vertical shaft for stopping the rotation the first and second blade members in contact with the first and second blade members; and

a bearing (24) for alleviating frictional resistance with respect to the horizontal shaft;

wherein the first and second blade members are secured to the horizontal shaft such that their plane orientations are deviated from each other by an angle of 90 degrees in the peripheral direction of the horizontal shaft (Figures 2 and 3), and are rocked about the horizontal shaft in an interlocked relation to each other between the vertical and horizontal directions (Figure 2); and

the plurality of horizontal shafts are helically disposed as respective stages on the vertical shaft at vertically different positions thereof (Figure 1), and in a predetermined angular interval deviation from one another in the peripheral direction of the vertical shaft, said angle obtained by dividing 180 degrees by the number of stages.

However, it fails to disclose a drive power apparatus utilizing winds, wherein:

each of the horizontal shaft crosses the first and second blade members to define, in each first and second blade members, a first section and a second section;

for each of the first and second blade members, the first section is provided with a load for providing weight balance adjustment;

for each of the first and second blade members, the first and second section are formed to receive wind power of different magnitudes; and

for each of the first and second blade members, the first section has a rotational momentum generated by gravitational forces which is lower than that of the second section.

Sicard teaches the construction of a rotary device driven by a moving fluid having blade members (Figure 3) comprising:

an horizontal shaft (10) crossing first (12) and second (7) blade members to define, in each first and second blade members, a first section (12') and a second (7') section;

for each of the first and second blade members, the first section is provided with a load (13) for providing weight balance adjustment;

for each of the first and second blade members, the first and second section are formed to receive wind power of different magnitudes; and

for each of the first and second blade members, the first section has a rotational momentum generated by gravitational forces which is lower than that of the second section;

for the purpose of allowing the blades to have a certain incidence with the relative air flow created by the wind and they are therefore subjected to an aerodynamic lift force which tends to make them pivot until the radial centrifugal force resulting from the position of the center of gravity and the lift balance one another out, when the rotor turns.

It would have been obvious to one skilled in the art at the time the invention was made to use the blade member configuration disclosed by Sicard on the simultaneous plural-directional flow motor disclosed by Atherton for the purpose of allowing the blades to have a certain incidence with the relative air flow created by the wind and they are therefore subjected to an aerodynamic lift force which tends to make them pivot until the radial centrifugal force resulting from the position of the center of gravity and the lift balance one another out, when the rotor turns.

4. With regards to claims 15-17 and 19-20, Atherton discloses the claimed invention except for:

the weight balance adjustment being made such that the difference between the rotation momentums generated on the first and second sections by gravitational forces is at most no higher than 0.2 times the higher one of the rotation momentums generated on the first and second sections by gravitational forces;

the rotation momentum difference is set by making the weights per unit area of the first and second sections different;

the weights per unit area of the first and second sections are made different by providing a load, or setting different thicknesses, to either one of the first and second sections;

for reducing the inertial momentum which is increased at the time of the weight balance adjustment, the position of the load disposed in the weight balance adjustment is set to be within 0.1 times the width of the load provision side member from each horizontal shaft.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the rotation momentum difference by changing the weight balance adjustment characteristics of the first and second sections, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to set the rotation momentum difference by changing the weight balance adjustment characteristics of the first and second sections, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. With regards to claim 18, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the rotation momentum difference by changing the weight balance adjustment characteristics of the first and second sections by forming the first and second sections from materials of different specific gravities, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

6. Claims 11-12 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,134,710 to Atherton in view of 4,048,947 to Sicard, as applied to claims 1-10, 14-15, 22-23, and 25-32, further in view of U.S. Patent No. 6,524,078 B1 to Brooks et al.

Atherton in view of Sicard discloses the construction of a simultaneous plural-directional flow motor as disclosed above.

However, it fails to disclose a rotation setting mechanism for setting the direction of rotation of the vertical shaft.

Brooks et al. teach the construction of a pond pump comprising reversing means (pegs 25 and detent 60) for the purpose of preventing rotation in the opposite direction.

It would have been obvious to one skilled in the art at the time the invention was made to use the pegs and detent disclosed by Brooks et al. on the simultaneous plural-directional flow motor disclosed by Atherton in view of Sicard for the purpose of preventing rotation in the opposite direction.

7. Claims 13 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,134,710 to Atherton in view of 4,048,947 to Sicard, as applied to claims 1-10, 14-15, 22-23, and 25-32, further in view of U.S. Patent No. 5,159,876 A to Olin.

Atherton in view of Sicard discloses the construction of a simultaneous plural-directional flow motor as disclosed above.

However, it fails to disclose oil hydraulic bumpers provided on each horizontal shaft for setting the plate orientations of the first and second blade members.

Olin teach the construction of a bale discharging pusher for baling machines comprising dual action hydraulic cylinders (22) actuated to open rear gate portion (14) for the purpose of reducing the danger of machine damage from engagement with the bale following discharge and increasing bailing efficiency by reducing the number of maneuvers normally associated with a bale discharge.

It would have been obvious to one skilled in the art at the time the invention was made to use the dual action hydraulic cylinders disclosed by Olin on the simultaneous plural-directional flow motor disclosed by Atherton for the purpose of mechanically actuating a gate, or plate.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,134,710 to Atherton in view of 4,048,947 to Sicard, as applied to claims 1-10, 14-15, 22-23, and 25-32, further in view of U.S. Patent No. 4,346,305 to White.

Atherton in view of Sicard discloses the construction of a simultaneous plural-directional flow motor as disclosed above.

However, it fails to disclose an auxiliary wing extending in a direction perpendicular to each horizontal shaft.

White teach the construction of a governor for fluid current motor comprising an auxiliary wing (24) extending in a direction perpendicular to an horizontal shaft for the purpose of orbiting about support (14) as vane (12) rotates.

It would have been obvious to one skilled in the art at the time the invention was made to use the auxiliary wings disclosed by White on the simultaneous plural-directional flow motor disclosed by Atherton in view of Sicard for the purpose of orbiting about a support as main vanes rotate.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pedro J. Cuevas
October 3, 2005

DARREN SCHUBERG
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